

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Inventor:	Dennis S. Fernandez	Docket No.:	FERN-P013
Application No.:	10/646,682	Art Unit:	1631
Filing Date:	08/22/2003	Examiner:	Eric S. DeJong
Confirmation No.:	1019		
Title:	Integrated biosensor and simulation system for diagnosis and therapy		

**REPLY BRIEF  
IN SUPPORT OF APPELLANTS' APPEAL  
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In response to the Examiner Answer dated 10/13/2010, Appellant hereby requests that the appeal be maintained by filing this Reply Brief. Appellant requests that all points of argument submitted in the appeal brief be continued for consideration by the board. Appellant submits this reply brief as supplemental argument, in response to Examiner's answer.

**I. STATUS OF CLAIMS**

Following the closure of prosecution, in Appellant's appeal brief filed on 7/6/2010 in response to Examiner's Final Office Action mailed February 3rd, Claims 36-49 and 51-55 were rejected. Claims 1-35 are cancelled. Claim 50 is withdrawn. Claims 36-49 and 51-55 are presently pending in this proceeding. Claims 36 and 40 are independent claims.

**II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

In the Examiner's answer dated 10/13/2010, the rejection under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn for all pending claims. Accordingly, supportive arguments to counter the rejection are not presented. Similarly, in the same answer, the Examiner has withdrawn the rejection under 35

U.S.C. 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Supportive arguments, accordingly are not presented. The balance of issues to be reviewed on the appeal as under:

**Whether claims 36-49 and 51-59 are unpatentable under 35 U.S.C. 103(a) over Porat, et al (US Patent No 6,432,050) in view of Giuffre (US Patent No 6,024,548), hereafter referred respectively as Porat and Giuffre.**

### III. ARGUMENT

Appellant respectfully traverses Examiner's finding (Examiner's Answer 10/23/2010, page-9 line-20 to page-10 line-4) that the Giuffre reference "encompasses" a systems-biology platform enabled by computational modeling hardware and analysis software that necessarily uses genomics, proteomics, computational chemistry, pharmacogenomics, computational biology, computational biophysics, computational cell behavior, pharmacokinetics, metabolomics, and transcriptomics automated tools.

In fact, Giuffre only mentions recognizing cardiovascular data patterns to predict neurological state "as if real brain monitor means were present" (col. 6, lines 31-37); and thus Appellant respectfully submits that it is unreasonable for Examiner to expect that Giuffre's so-called "virtual" brain monitor, which merely recognizes data patterns, for example, by training neural network software to classify and predict brain activity, would also render obvious systems-biology simulation of a biological target as a whole organism to automate diagnosis and therapy as required by Appellant's claimed invention, particularly by using a systems-biology platform that simulates the target biologically as a whole organism using genomics, proteomics, computational chemistry, pharmacogenomics, computational

biology, computational biophysics, computational cell behavior, pharmacokinetics, metabolomics, and transcriptomics tools.

Appellant respectfully submits that one of ordinary skill in the art at the time of filing the invention, when considering Giuffre in particular among other cited art, could not reasonably expect to accomplish systems-biology-based diagnosis or therapy merely by recognizing data patterns, even via classification and prediction software, because Appellant's claimed invention unexpectedly requires that the systems-biology platform simulates the biological target as a whole organism using genomics, proteomics, computational chemistry, pharmacogenomics, computational biology, computational biophysics, computational cell behavior, pharmacokinetics, metabolomics, and transcriptomics automated tools.

#### IV. CONCLUSION

For the foregoing reasons, Appellant prays for careful consideration of this appeal by the Board of Patent Appeals for the ultimate allowance of claims 36-49 and 51-55. Appellant has shown that claims 36-49 and 51-55 are not anticipated by Porat in view of Giuffre. With grounds of rejection refuted, the claims are allowable.

Respectfully submitted,

/Dennis S. Fernandez/

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Date: 10/28/2010

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